

**09<sup>th</sup> SAIHC Meeting**  
**18-19 September 2012**  
**Mauritius**



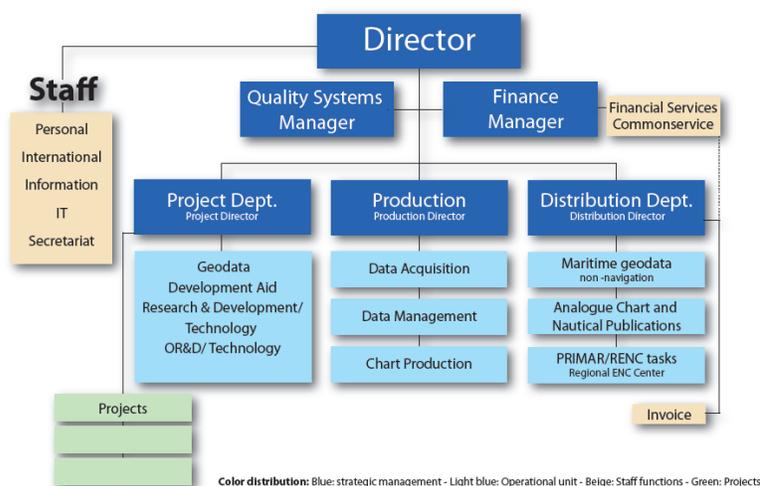
**NATIONAL REPORT**  
**NORWAY**

**1. Hydrographic office**

The IHO Yearbook was updated October 2011.

**Administrative information:**

No substantial organizational changes has taken place last two years.



The total budget for 2012 is NOK 265 mill., included expected annual gross revenues of NOK 60.5 mill for the Distribution Department. The considerable increase in budget compared to 2011 is mainly related to additional grant for the MAREANO project (NOK 55 mill.).

**2. Hydrographic Surveys**

The internal survey capacity has been used in national waters in the Northern Seas only.

The Institute of Marine Research (IMR), Norway, is operating the research vessel “Dr. Fridtjof Nansen” on behalf of UN/FAO and the Norwegian Agency for Development Co-operation (NORAD). The vessel has done some multibeam surveying in African waters

(west coast) both in 2011 and 2012. A process to substitute “Dr. Fridtjof Nansen” with a new and bigger vessel has been initiated. A decision is expected before the end of 2012.

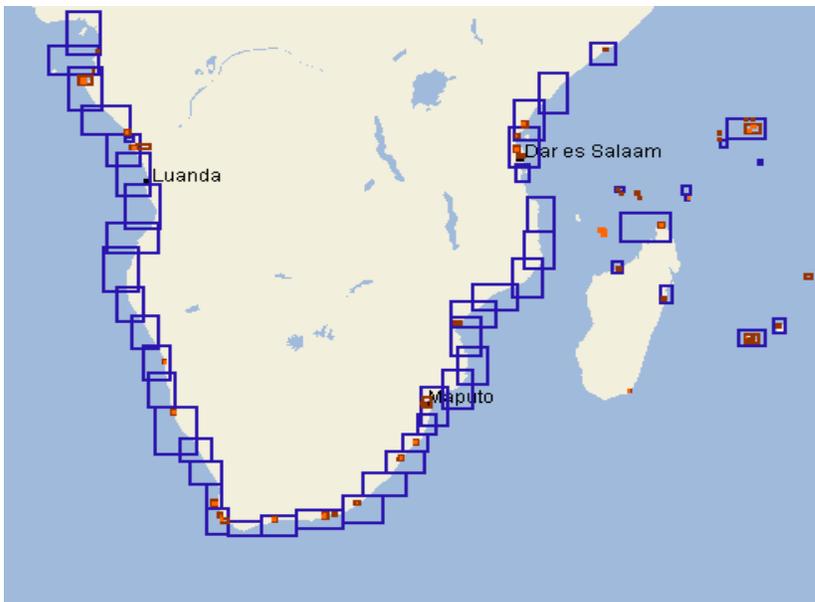
### 3. Charts and Publications

INT chart 2656 (Bovet Island) was published 2011. Just a few charts are sold per year.

#### PRIMAR

PRIMAR International ENC service, operated by the Norwegian Hydrographic Service, now includes approx 10950 ENCs from more than 35 countries.

The coverage of the coastal, approaches and harbour ENC along the Southern Africa and Islands is shown below.



For more information, see [www.primar.org](http://www.primar.org)

#### **Print On Demand (POD)**

The NHS initiated in 2007 a project with the objective of establishing a Print on Demand service. From January 2011 our Main Chart series (143 charts) was offered as POD charts and from January 2012, 28 Harbour charts were added to the service. The POD-charts are continuously updated according to published “Notice to Mariners”.

#### **4. MSI**

MSI is outside the responsibility of NHS

#### **5. C-55**

The last update of C-55 was sent to IHB in November 2011.

## **6. Capacity building**

Norway has volunteered to participate in Technical Visit to Mozambique and Angola in 2012. The visit to Mozambique takes place during week 43 (October). The Angola visit is tentatively scheduled for November.

Norway is supporting the 9<sup>th</sup> SAIHC meeting by sponsoring the travel and accommodation for 4 delegates. One more country was offered support but did not respond.

Norway participated in the CBSC meeting 2011, but missed the meeting in June 2012.

## **7. Oceanographic activities**

Our network of 23 permanent tide gauges has been working properly with a data capture of appr. 99% during the last year.

## **8. Other activities**

As examples of (partly) MSDI related activity, description of two projects are included below. Even though these projects take place outside the SAIHC region they illustrate how traditional hydrographic work is integrated with other fields of activities and research.

### **The BLAST project**

The Blast (Bringing Land And Sea Together) project is now in the finishing phase with only 2 out of 36 months left to go.

Until now several tangible results have been achieved in particular on harmonization of topographic and marine data and harmonization of maritime information. The ENC checker and Marine Data Collection System (MDCS) prototype are profound examples. The opening of the North Atlantic Information Management Centre in Haugesund, Norway, also exposed a vital Blast contribution.

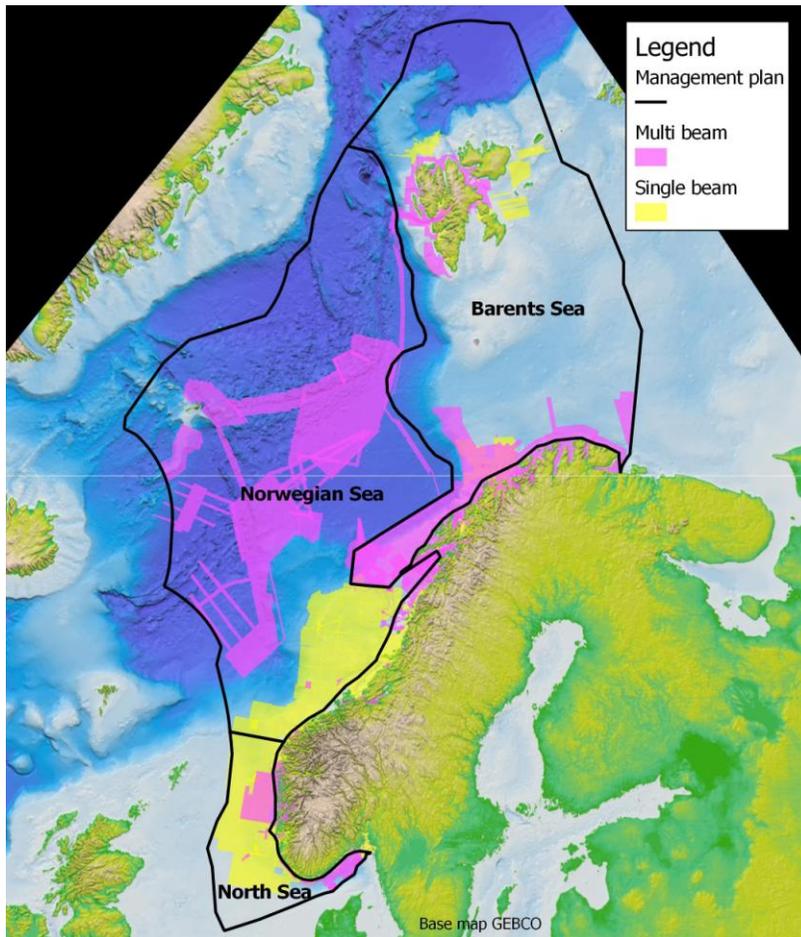
The other main topics been addressed are related to Integrated Coastal Zone Management (ICZM). The main work here is to develop web based computation of climate change indicators based on the harmonized land/sea datasets. The indicators will in turn be used by coastal zone planners as a basis for decision making. The last Blast conference coincides with the SAIHC meeting dates.

See also the project website [www.blast-project.eu](http://www.blast-project.eu).

### **The MAREANO Programme**

**Background:** MAREANO is a multidisciplinary marine mapping and documentation programme aiming at providing the foundation for ecosystem based sustainable management of the Norwegian coastal and sea areas. The primary focus has been The Management plan for the Barents Sea. In 2012 MAREANO will also start mapping areas covered by the management plan for the Norwegian Sea (see figure below). The aim is to

bridge the knowledge gap in poorly mapped but very sensitive areas. High quality multibeam bathymetry is regarded as a premise for further geological and biological investigations. The NHS is responsible for bathymetric data acquisition (including backscatter and water column data), and effective data management and distribution of survey data, derived products and services. An important facet of the programme is the web-based geodata distribution, and distributed data management as part of a National Spatial Geodata Infrastructure (NSDI)



*Figure: The Management plan areas and the coverage of multi beam and single beam echo sounder data.*

**Organization:** The NHS is a programme partner with the Institute of Marine Research (IMR, programme management) and the Geological Survey of Norway (NGU).

**Results 2011:** The MAREANO program received NOK 96.4 mill in total through earmarked funding. NHS received NOK 51.6 mill. 23 640 km<sup>2</sup> was surveyed in 2011 and 2 519 km<sup>2</sup> was received from University of Tromsø (measured in 2010). See overview of surveyed areas in figure below.

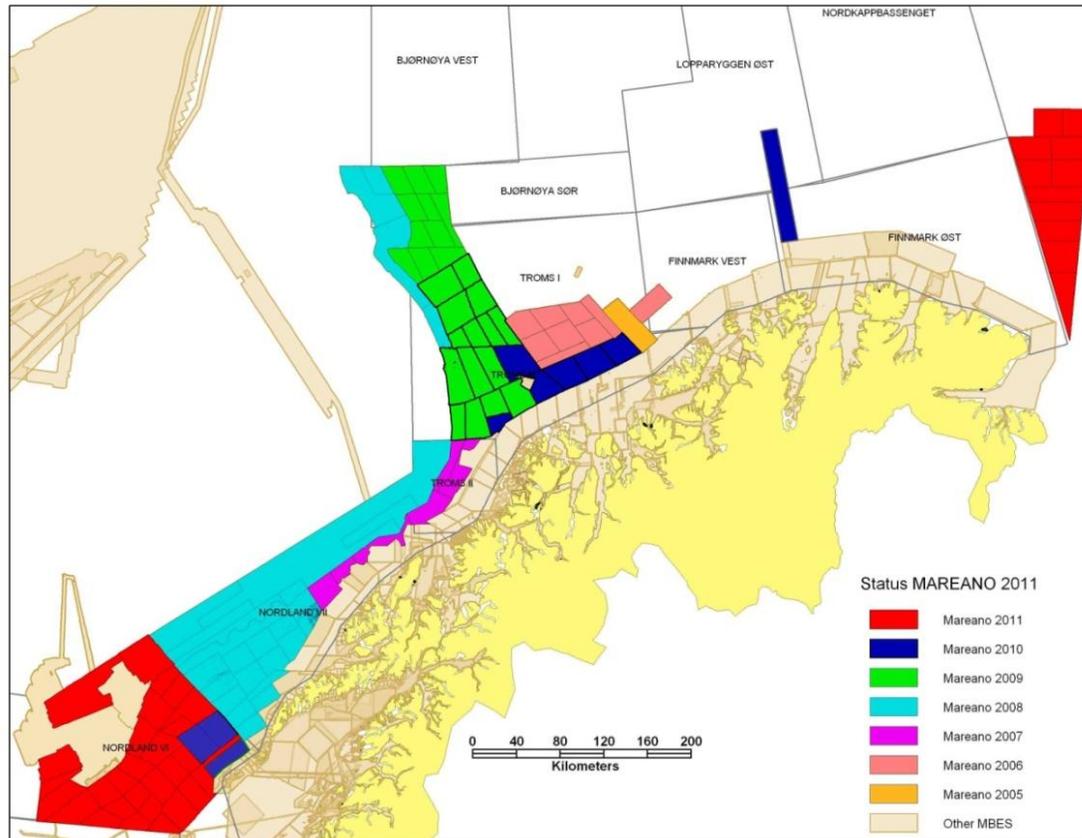


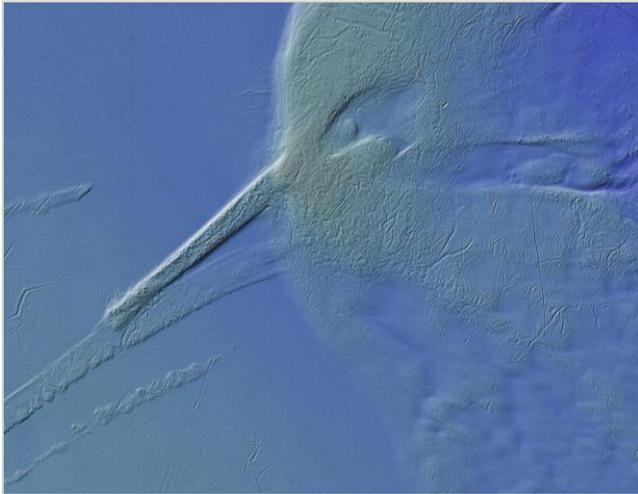
Figure: An overview of the surveyed area each year for the period 2005 - 2011

**Data distribution:** All our multibeam data has been modeled in grids of various resolutions, and visualized through shaded relief maps as a Web Map Service included in the map services on the MAREANO webpage. Further overview bathymetry map services have been produced, also showing the coverage of all surveys in the NHS data management system. Further information and results is available on [www.mareno.no](http://www.mareno.no). This website is a portal for knowledge dissemination mainly through effective map services and documentation aimed at both government decision-makers and the general public. The web service is a joint effort among the program partners, but the project is managed by the Institute of Marine Research.

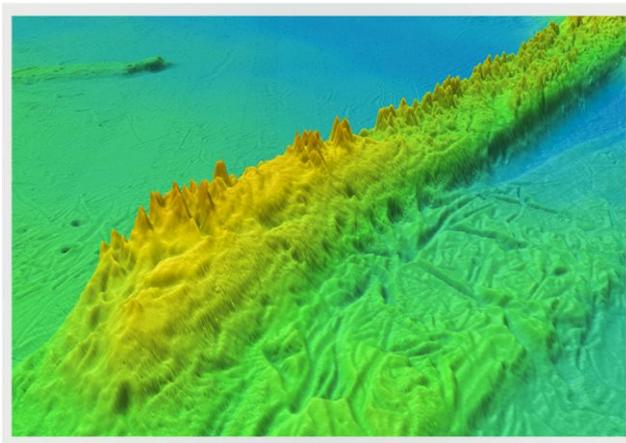
**NSDI:** According to the MAREANO data policy all geodata from the MAREANO programme will be published in the Norwegian spatial data infrastructure; *Norge Digitalt (Norway digital)*.

MAREANO will be a major undertaking for the NHS in the years to come, and is mainly aimed at non-navigational purposes.

Examples of bottom topography:



The complex geological processes shaping the seabed at Iverryggen, Norway have resulted in this spectacular structure, bearing an uncanny resemblance to a bird's head which was revealed by multibeam data in 2012.



A closer look at the bird's beak reveals a cold water coral reef (by use of video).